INDEX

JOURNAL OF ANALYTICAL CHEMISTRY

Volume 20, 1965

Journal of Analytical Chemistry

Volume 20, 1965

(A Translation of Zhurnal Analiticheskoi Khimii)

A

Adamova, M. N. - 1163
Adamovich, L. P. - 371, 1317
Afanas'ev, M. I. - 401
Agasyan, P. K. - 177, 322, 717
Aidarov, T. K. - 1402
Akhmanova, M. V. - 133
Akhmetshin, A. G. - 429
Aksel'rod, F. M. - 478
Aleksandrov, V. V. - 21
Aleksandrova, D. M. - 250
Alekseev, R. I. - 1046
Alekseeva, T. A. - 220
Aleskovskii, V. B. 651
Alimarin, I. P. - 41, 149, 312, 319, 493, 838, 870, 1147, 1197
Alykov, N. M. - 943, 1351
Andras, L. - 894
Andreeva, I. Yu. - 415
Andreichuk, A. M. - 1245
Andronov, L. M. - 1066
Anisimova, G. F. - 484
Antonenko, N. S. - 1163
Antonovskii, V. L. - 248
Anvaer, B. I. - 487
Aparsheva, M. I. - 655
Arishkevich, A. M. - 429
Azarenko, T. G. - 52, 419

B

Babina, F. L. - 465
Babina, M. D. - 1300
Babko, A. K. - 62, 1153, 1375
Baev, F. K. - 111
Bagreev, V. V. - 940
Bakos, L. 894
Balakhontseva, V. N. - 689
Barkovskii, V. F. - 984
Basargin, N. N. - 1032
Bashkirov, A. N. - 332
Batova, N. T. - 387, 607, 725
Beilis, Yu. I. - 1060
Belen'kaya, S. L. - 678, 1055
Belen'kii, B. G. - 1003
Bel'skaya, M. G. - 1278
Belyaeva, G. F. - 1297
Belyanin, V. B. . - 332
Belyatskaya, O. N. - 1083
Berezina, Yu. I. - 238
Bezuglyi, V. D. - 220, 469, 684, 791, 1060, 1274
Birmantas, I. I. - 764
Blank, A. B. - 1
Blokhin, V. I. - 1371
Blynum, I. A. - 973
Bobikov, P. I. - 174
Bogdanova, E. S. - 542, 887
Bogovina, V. I. - 1018
Bondarev, V. B. - 923
Bondarevskaya, E. A. - 224, 1113
Borbat, V. F. - 174
Boreiko, M. K. - 25
Bork, V. A. - 655
Borovik-Romanova, T. F. - 612
Bozhanova, L. A. - 1245
Bozhevlo'nov, E. A. - 1366
Bragilevskaya, M. M. - 227
Bragin, Yu. A. - 281
Brainin, E. I. - 1072
Brainina, Kh. Z. - 1346
Broit, V. V. - 238
Budanova, L. M. - 296
Bugaevskii, A. A. - 371
Bukanova, A. E. - 554
Buketova, E. A. - 1395
Burkat, S. E. - 243
Burmistrov, M. P. - 1098
Burtseva, E. I. - 204
Busev, A. I. - 66, 374, 542, 598, 887, 1040, 1125, 1253, 1303, 1380
Buzlanova, M. M. - 248, 805, 948
Bykova, L. N. - 457, 914
Bykhovskaya, I. A. - 526
Bykovskaya, Yu. I. - 160

C

Chashchikhina, M. V. - 408
Chepelevetskii, M. L. - 693
Cherkesov, A. I. - 426, 621, 943, 1237, 1351
Chernikhov, Yulii Abelevich - 1414
Chernyaev, G. N. - 342
Chernysheva, A. N. - 452
Chikryzova, E. G. - 1241
Chinaeva, G. P. - 300
Chipen, G. I. -66
Chivikova, A. N. - 1295
Chmil', V. D. - 1173
Chudinov, É. G. - 880
Chukur, A. P. - 118
Chumakov, Yu. I. - 929
Chupakhin, M. S. - 660

D

Danilova, V. N. - 1375
Dedkov, Yu. M. - 114, 263, 408, 490, 532, 1089, 1192
Degtyareva, O. F. - 559, 767
Demkin, A. M. - 936
Denisov, E. I. - 169
Dmitrieva, F. I. - 945
Dmitrieva, V. N. - 848
Dobrolyubskaya, T. S. - 436
Dobychin, S. L. - 910
Dokunikhin, N. S. - 368
Dolgorev, A. V. - 1117
Doronin, A. N. - 1358
Dorosh, V. M. - 233
Dronova, M. I. - 315
Dubovik, K. V. - 396, 1222
Dymov, A. M. - 1395
Dzhabishvili, N. A. - 1078

E

Efimov, I. P. - 374
Efimychev, V. S. - 965
Efryushina, N. P. - 1129
Eizner, Yu. E. - 1003
Elinson, S. V. - 630
Emelin, E. A. - 1069
Epimakhov, V. N. - 641
Ermilova, I. I. - 710
Ermolaev, N. P. - 1371

Esikov, A. D. - 1183
Ezerskaya, N. A. - 1411

F

Faizova, G. K. - 245
Fedonin, V. F. - 1083
Fedorenko, N. V. - 1411
Fedorov, A. A. - 696
Fedorova, A. M. - 1411
Filipov, E. L. - 1214
Filippov, A. P. - 890
Filippov, M. P. - 118
Filippovich, M. N. - 929

G

Galimov, É. M. - 509, 1227
Gallai, Z. A. - 1147
Gel'man, N. É. - 104, 207, 671
Gibalo, I. M. - 312
Ginzberg, S. I. - 1411
Gladyshev, V. P. - 300
Gladyshevskaya, K. A. - 1411
Godneva, M. M. - 905
Godovannaya, I. N. - 325
Gokhshtein, Ya. P. - 936
Golovei, M. I. - 749
Golovina, A. P. - 312
Gol'tman, A. D. - 1405
Gorbenko, F. P. - 285, 1231
Gorbenko-Germanov, D. S. - 702, 1080
Gordievskii, A. V. - 1214
Gorshkov, V. I. - 91
Gorskaya, R. V. - 715
Goryushina, V. G. - 375
Gradskova, N. A. - 1052
Grandberg, I. I. - 245, 812
Grapov, A. F. - 947
Grinenko, V. A. - 509
Grinshtein, V. Ya. - 66
Gromakova, Z. I. - 1395
Gul', V. E. - 1083
Gur'ev, I. A. - 272
Gurevich, V. G. - 1405
Gurkina, T. V. 733
Gusarskii, V. V. - 392
Gusev, S. I. - 57, 841
Gusinskii, M. N. - 1183

H

Hamid, Sherif Abdel - 838

I

Igoshin, A. M. - 733
Imyanitov, N. S. - 951
Iordanov, N. - 548
Iosilovich, G. I. - 484
Itskova, A. L. - 947
Ivanov, B. G. - 243
Ivanov, N. P. - 1183
Ivanov, V. M. - 959, 1186
Ivanova, A. N. - 13
Ivanova, G. F. - 72
Ivanova, N. A. - 233
Ivanova, Z. I. - 38, 303
Ivonina, O. M. - 1411

K

Kabanova, O. L. - 564, 1358
Kachanov, V. A. - 704
Kaigorodov, V. A. - 133
Kalinichenko, I. I. - 25
Kalitvyanskaya, V. I. - 254
Kamenev, A. I. - 165, 1121
Kapkin, V. D. - 332
Kaplan, B. Ya. - 998
Kaplin, A. A. - 1103
Karabanov, Yu. A. - 851
Karabash, A. G. - 465
Karanov, R. A. - 594
Karolev, A. N. - 594
Karyakin, A. V. - 133
Katykhin, G. S. - 570
Kazaryan, N. A. - 457
Kazlauskas, R. M. - 1293
Ketova, L. A. - 841
Kharitonovich, K. F. - 693
Kheifets, L. Ya. - 355, 684
Khol'kin, Yu. I. - 342
Khromov-Borisov, N. V. - 328
Khudyakova, T. A. - 580
Khurtova, L. N. - 984
Khvostikova, A. A. - 844
Kiparenko, L. M. - 104, 207
Kirillova, O. F. - 914
Kish, P. - 749
Kist, A. A. - 98
Kiva, N. K. - 1346
Kler, M. M. - 415
Kletenik, Yu. B. - 526
Klimova, V. A. - 484
Klisenko, M. A. - 480, 588
Klitina, V. I. - 1197
Klyueva, N. D. - 714
Knoblokh, V. - 1210
Kodner, M. S. - 1163
Kogan, F. I. - 303
Kogan, I. E. - 227
Koksharov, V. G. - 1297
Kolchina, N. A. - 346
Kolokolov, B. N. - 368
Kondrashina, A. I. - 503
Kondratov, V. K. - 1297
Kononova, A. M. - 475
Kopylova, V. P. - 836
Kormilitsyn, D. V. - 660
Kornilova, L. I. - 954
Koronelli, T. V. - 918
Korosteleva, M. M. - 238
Koshkin, N. V. - 497
Kost, A. N. - 245, 812, 918
Kotova, G. S. - 740
Kouba, É. F. - 174
Kovalenko, G. S. - 1371
Kovalenko, P. N. - 38, 111, 303
Kozlov, M. P. - 710
Kozlova, A. B. - 1150
Kreshkov, A. P. - 457, 580, 655, 914, 1362
Krot, N. N. - 1371
Krylov, Yu. A. - 717
Kryukova, E. V. - 241
Kuchkarev, E. A. - 1362
Kulakova, G. I. - 366
Kunin, L. L. - 774
Kuntsevich, G. K. - 877
Kurapina, L. M. - 189
Kutsenko, L. M. - 155, 521
Kuvaev, B. E. - 951
Kuz'micheva, R. A. - 740
Kuz'min, N. M. - 442
Kuznetsov, V. A. - 181
Kuznetsova, E. V. - 1407
Kuznetsova, L. V. - 910
Kuznetsova, N. M. - 875, 737

L

Lambrev, V. G. - 615, 1204
Larikova, G. G. - 1113
Lavrent'ev, Yu. G. - 990, 1093
Lavrukhina, A. K. - 485
Layér, R. S. - 1129
Lazarev, A. I. - 1026
Lazareva, V. I. - 1026
Lebed', N. B. - 49
Lebedeva, A. I. - 585, 782
Lenskaya, L. K. - 699
Leshchiner, A. S. - 252
Levin, I. S. - 52, 419
Levinson, I. M. - 1167
Lideman, R. R. - 918
Lisenko, N. F. - 13
Litvinova, N. F. - 1258

Lobanov, E. M. - 98
Lobanov, V. I. - 957
Lomonosov, S. A. - 267
Lotareva, V. I. - 867
Lukanets, I. G. - 62
Lukovskaya, N. M. - 1153
Luk'yanenko, L. P. - 363
Luk'yanov, V. F. - 1150
Lunina, G. E. - 1125
Lunyatskas, A. M. - 707
Lushchik, V. I. - 252
Luskina, B. M. - 1052
Lyalikov, Yu. S. - 478, 1271
Lysenko, T. I. - 381

M

Mairanovskii, V. G. - 200
Makarova, V. P. - 408
Makhmetov, M. Zh. - 1395
Malkina, E. N. - 1014
Malkova, O. P. - 116
Mal'tsev, V. F. - 363, 901, 1018
Malyshev, V. I. - 1258, 1385
Malysheva, T. V. - 485
Mandel'baum, Ya. A. - 947
Markacheva, T. M. - 954
Mashentseva, E. K. - 875
Mekhanoshina, L. N. - 235
Mikhailova, T. A. - 328
Mikheeva, V. I. - 181
Miller, A. D. - 81
Mischenko, V. T. - 1129
Mittsel', Yu. A. - 312
Mnatsakanova, T. R. - 250
Moiseeva, E. I. - 339
Moiseeva, G. P. - 681
Moiseeva, L. M. - 737, 875
Molin, Yu. N. - 366
Morozova, M. N. - 475
Moselhi, Mohamed - 87
Moskovtseva, G. A. - 98
Mukhina, Z. S. - 740
Muravenko, V. P. - 503
Murshtein, M. K. - 267
Mustafin, I. S. - 13, 358
Myshlyaev, L. V. - 1362

N

Nabivanets, B. I. - 62, 1310
Nadezhina, L. S. - 169
Narushkyavichyus, L. R. - 1293
Nazarchuk, T. N. - 235, 836
Nedler, V. V. - 1098
Nefedova, G. Z. - 855
Neimark, M. E. - 227
Nemtseva, Zh. I. - 1032
Nikitina, N. G. - 962
Nikolaev, G. I. - 412
Nikolaev, N. S. - 846
Nikolaeva, N. A. - 782
Norikov, Yu. D. - 1066
Norkus, P. K. - 77, 460, 567, 707
Noskov, A. S. - 1385
Novak, V. P. - 901, 1018
Novikova, I. S. - 785, 1269

O

Obukhova, L. K. - 933
Olenovich, N. L. - 1399
Onosova, S. P. - 877
Orolova, K. B. - 646
Ospanov, Kh. K. - 46, 232
Ostrovskaya, M. F. - 767
Orestova, V. A. - 1003
Ovchar, L. A. - 515

P

Pantaler, R. P. - 49
Partashnikova, M. Z. - 288
Paskonova, E. A. - 923
Pasovskaya, G. B. - 360
Pavlotskaya, F. I. - 485
Pavlova, M. - 548
Pavlova, N. I. - 1075
Pavlova, N. N. - 973
Pavlyuchenko, M. M. - 396
Peizulaev, Sh. I. - 465
Pen, R. Z. - 256
Perezhogin, G. A. - 870
Personov, R. I. - 1176
Perzhogin, G. A. - 41
Peshkova, V. M. - 1085
Pesis, A. S. - 57
Petrakovich, V. E. - 863
Petrikova, M. N. - 493, 1187
Petroshen, V. I. - 1218
Petrov, A. K. - 366
Petrukhin, O. M. - 319, 1089, 1192
Pinaeva, S. N. - 296
Pirtea, Th. I. - 898
Pisarenko, E. S. - 585
Pobedina, L. I. - 630
Podchainova, V. N. - 1117
Podurovskaya, O. M. - 863
Poltinina, R. M. - 689
Poluéktov, N. S. - 515
Poluéktov, S. S. - 1129
Pometun, E. A. - 744
Ponomarev, Yu. P. - 469, 791, 1274
Popova, O. I. - 325
Potapov, V. M. - 681
Potsepkina, R. N. - 224
Povlova, V. K. - 1158
Povlyuchenko, M. M. - 1222
Pozdnyakov, A. A. - 439
Pravidlo, G. E. - 1113
Preobrazhenskaya, E. A. - 684
Prokof'eva, I. V. - 554, 1411
Prudnikov, E. D. - 34, 1288
Pukhonto, A. N. - 339
Pushinov, Yu. V. - 426, 621, 1237
Puzdrenkova, I. V. - 838
Pyasetskaya, L. I. - 1072

R

Rad'ko, V. A. - 1022
Raikhbaum, Ya. D. - 276
Rakovskii, É. E. - 121
Rashkes, Ya. V. - 215, 808
Ratomskaya, M. A. - 332
Razumov, V. A. - 1402
Reznik, B. E. - 901
Reznitskaya, T. V. - 204
Rezova, A. T. - 630
Rivkina, L. L. - 1231
Rogachko, M. M. - 1399
Romanova, N. V. - 243
Ropot, V. M. - 1241
Rozhdestvenskaya, Z. B. - 46, 232
Rubinstein, A. R. - 1138
Rubtsova, E. S. - 457
Rudenko, B. A. - 796
Rudnevskii, N. K. - 116
Rudol'fi, T. A. - 252
Rudzit, G. P. - 66
Rusanov, A. K. - 387, 607, 725
Rusina, O. N. - 38
Rus'yanova, N. D. - 1297
Ryabchikov, D. I. - 114, 532, 1026
Rybkin, Yu. F. - 21

S

Sachko, V. V. - 285
Sagitullin, R. S. - 918
Salikhov, V. D. - 1340
Sambueva, A. S. - 833
Savvin, S. B. - 408, 532, 596, 1014
Sayapin, V. G. - 1075
Semenova, E. F. - 465, 712
Semenova, R. A. - 712
Serdyuk, L. S. - 146
Shafran, I. G. - 288

Shanina, T. M. - 104
Shanya, M. V. - 591
Sharipov, R. K. - 636
Shatalova, A. A. - 52
Shatunova, T. G. - 1362
Sheider, L. A. - 81
Sheina, N. M. - 1147
Sheskol'skaya, A. Ya. - 1291
Shevchenko, N. F. - 21
Sheveleva, N. S. - 671
Shikhman, E. V. - 782
Shipitsyn, S. A. - 833
Shiryaeva, O. A. - 998
Shlenskaya, V. I. - 123
Shostenko, Yu. V. - 1173
Shterman, V. S. - 1214
Shvaika, O. P. - 250
Shvyrkova, L. A. - 655
Sidorov, R. I. - 844
Sil'nichenko, V. G. - 945
Sinitsyna, L. G. - 559
Skvortsova, A. E. - 1167
Smirnaya, V. S. - 146
Smirnov, V. F. - 339
Sokolov, A. G. - 714
Sokolova, E. V. - 57
Solonar, A. S. - 1271
Solov'ev, E. A. - 1366
Songina, O. A. - 46, 636
Sorokina, N. N. - 696
Sorokovskava, I. A. - 998
Sotnikov, V. S. - 475
Speranskaya, E. F. - 381
Spirin, E. K. - 761, 860
Stakheev, Yu. I. - 276
Starilova, S. V. - 281
Stasy, I. - 1210
Stenina, N. I. - 177
Stepanova, O. S. - 139
Stepanovskaya, V. F. - 248, 805, 948
Stepina, N. I. - 322
Stolyarova, E. N. - 910
Stradyn', J. P. - 1281
Strel'tsova, E. M. - 1218
Strepikheev, Yu. A. - 712
Stromberg, A. G. - 761, 851, 1103, 1323
Sudakov, F. P. - 960, 1197
Sukhanovskaya, A. I. - 149
Suprunovich, V. I. - 754
Sverchinskaya, S. A. - 833
Svistunova, G. P. - 1069
Syavtsillo, S. V. - 224

T

Tabak, S. - 812
Tal'roze, V. L. - 91
Tananaev, I. V. - 1078, 1138
Tantsyrev, G. D. -91
Tarasevich, N. I. - 87, 392, 1306
Tarkovskaya, I. A. - 1231
Taskaeva, T. P. - 1249
Teplitskaya, T. A. - 1176
Trent'ev, A. P. - 224, 681, 785, 1052, 1113, 1269
Tereshin, G. S. - 1138
Tikhomirova, G. P. - 254, 658, 1055
Tikhonov, V. I. - 1009, 1263
Tikhonov, V. N. - 194, 358, 452
Tiptsova, V. G. - 542, 887, 1245
Titova, I. A. - 1278
Tokarskaya, E. A. - 1046
Tolikina, N. F. - 1083
Tomilov, A. P. - 241
Tonkoshkurov, V. S. - 426
Trapeznikov, L. V. - 189
Trizno, V. V. - 1214
Trostyanskaya, E. B. - 855
Trushina, L. F. - 139
Tsarankute, S. P. - 707
Tserkovnitskaya, I. A. - 641
Tsitovich, I. K. - 817
Tumanov, A. A. - 965
Tumanova, A. N. - 116
Turgel', E. O. - 1407
Turkina, V. M. - 392
Turovtseva, Z. M. - 1258, 1385, 1390
Tur'yan, Ya. I. - 863
Tutane, I. R. - 1281

U

Ufimtseva, S. N. - 1399
Usatenko, Yu. I. - 155, 429, 521, 754
Ushakov, A. N. - 712
Ustimov, A. M. - 300
Ustinov, V. I. - 376, 490, 509, 1227
Utkina, T. P. - 1402

V

Vainshtein, E. E. - 990, 1093, 1249 1305
Vasilenko, V. D. - 591
Vasilevskaya, A. E. - 699
Vasilevskaya, L. S. - 503
Vasserman, A. M. - 1390
Veselago, L. I. - 308
Vetchinkina, V. N. - 933
Vigdergauz, M. S. - 401
Vin', D. Kh. - 1040, 1253, 1380
Vinogradov, A. V. - 315
Vinogradova, E. N. - 165, 1121
Vinokurova, F. A. - 408
Vitkun, R. A. - 515
Vitol', E. N. - 646
Vitt, S. V. - 923
Vladimirtsev, E. F. - 1022
Vodyannikova, R. D. - 905
Volodina, O. I. - 475
Vanag, G. Ya. - 1281
Voskresenskaya, N. T. - 1331
Vyaselev, M. R. - 1108

Y

Yakimets, E. M. - 1022
Yakobson, G. G. - 366
Yampolskii, M. Z. - 1340
Yanotovskii, M. Ts. - 200, 796
Yanusik, Z. A. - 30
Yarym-Agaeva, N. T. - 715
Yasinskene, É. I. - 764
Yatsimirskii, K. B. - 890, 1158

Z

Zagorovskaya, A. A. - 1295
Zaitseva, L. F. - 118
Zaitseva, Z. V. - 118
Zakharov, I. A. - 651
Zakharov, M. S. - 139, 1323
Zalogina, E. A. - 564
Zarinskii, V. A. - 272, 1312
Zavorotnova, G. I. - 626, 729
Zenkova, R. A. - 702, 1080
Zharikova, N. A. - 923
Zharovonkova, A. Ya. - 339
Zolotov, Yu. A. - 149, 319, 442, 615, 940, 1086, 1204
Zonov, Yu. A. - 185
Zvereva, N. F. - 1331
Zvyagina, L. S. - 98

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
D. I. Ryabchikov
(Assistant Editor)
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII**
a publication of the Academy of Sciences of the USSR

© 1965 CONSULTANTS BUREAU ENTERPRISES, INC.
227 West 17th Street, New York 11, N. Y.

Volume 20, Number 1 January, 1965

CONTENTS

	PAGE ENG.	PAGE RUSS.
A Study of the Experimental Errors Which Arise During the Analysis of High Purity Materials for Microimpurities. Communication 1. The Relationship between the Errors of Photometric Methods and the Concentration of the Microimpurities to be Determined in the Reagents—A. B. Blank	1	3
The State of Phenol Acids of the Triphenylmethane Series in Solution—I. S. Mustafin, A. N. Ivanova, and N. F. Lisenko	13	17
A Comparison of the Acidity Values of Buffer Solutions by the Method of Voltage Potential Differences—N. F. Shevchenko, Yu. F. Rybkin, and V. V. Aleksandrov	21	26
A Polarographic Study of the Oxidized Nickel Dimethylglyoxime Complex—M. K. Boreiko and I. I. Kalinichenko	25	31
The Possibility of Determining the Content of Chemical Compounds in a Sample by Emission Spectrographic Analysis—Z. A. Yanusik	30	36
A Comparison of Certain Conditions for Determining the Alkali Metals (Na, K, Rb, Cs) by Atomic Absorption and Emission Flame Spectrophotometric Methods—E. D. Prudnikov	34	40
Potentiometric Titration of Copper and Lead in Each Other's Presence—O. N. Rusina, P. N. Kovalenko, and Z. I. Ivanova	38	44
Radioactivation Determination of Traces of Gold Using Substoichiometric Separation —I. P. Alimarin and G. A. Perezhogin	41	48
Amperometric Titration of Mono- and Divalent Mercury with Unithiol Solution —O. A. Songina, Kh. K. Ospanov, and Z. B. Rozhdestvenskaya	46	55
Fluorescent Determination of Traces of Gallium in Special Purity Cadmium Salts—N. B. Lebed' and R. P. Pantaler	49	59
The Use of Alkyl Phosphoric Acids in Analytical Chemistry. Communication 2. Separation of Indium from Antimony and Bismuth—I. S. Levin, A. A. Shatalova, and T. G. Azarenko	52	62

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau Enterprises, Inc., 227 West 17th Street, New York, N.Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE ENG.	PAGE RUSS.
Spectrophotometric Determination of Thallium with Diantipyryl-p-dimethylaminophenylcarbinol—S. I. Gusev, A. S. Pesis, and E. V. Sokolova	57	67
Titrimetric Determination of Niobium as its Peroxide Complex—A. K. Babko, I. G. Lukanets, and B. I. Nabivanets	62	72
Extraction of the Complex of Pentavalent Molybdenum with Thioglycolic Acid in the Presence of Guanidine Derivatives—A. I. Busev, G. P. Rudzit, G. I. Chipen, and V. Ya. Grinshtein	66	76
The Part Played by Chemical Reactions in the Electrode in Increasing the Sensitivity of the Spectrographic Determination of Molybdenum, Tungsten, and Tin in Rocks—G. F. Ivanova	72	82
The Use of OsO_4 as a Catalyst in Titrimetry. Communication 2. Potentiometric Determination of Iodate in an Alkaline Medium—P. K. Norkus	77	88
Determination of Microamounts of Iodine in Silicate Rocks by a Kinetic Method—L. A. Shneider and A. D. Miller	81	92
Spectrographic Analysis of Titanium Alloys by Atomizing the Solutions into the Spark Discharge through the Electrode Channel—N. I. Tarasevich and Moselhi Mohamed	87	98
Chromato-Mass-Spectrometry. Communication 2. The Problems of Combining Chromatographic Columns with a Mass-Spectrometric Detector—V. L. Tal'roze, G. D. Tantsyrev, and V. I. Gorshkov	91	103
Activation Determination of Halogens in Biological Materials—A. A. Kist, L. S. Zvyagina, E. M. Lobanov, and G. A. Moskovtseva	98	112
Quantitative Analysis of Heteroorganic Compounds. Spectrophotometric Microdetermination of Silicon—T. M. Shanina, N. É. Gel'man, and L. M. Kiparenko	104	118
BRIEF COMMUNICATIONS		
Assessment of the Possibility of Separating Materials Chromatographically by Means of Qualitative Microanalysis—F. K. Baev and P. N. Kovalenko	111	126
The Use of Aromatic Phosphoric Acids for Determining Rare Elements—D. I. Ryabchikov and Yu. M. Dedkov	114	128
Determination of Boron in Germanium and Germanium Films by a Spectrographic Method—O. P. Malkova, A. N. Tumanova, and N. K. Rudnevskii	116	130
Determination of Vinyl Alkyl Adipates in their Mixtures with Vinyl Acetate by the Bromide—Bromate Method—M. P. Filippov, L. F. Zaitseva, Z. V. Zaitseva, and A. P. Chukur	118	132
CRITICISM and BIBLIOGRAPHY		
Proceedings of the Commission on Analytical Chemistry. Vol. XIV, Extraction Methods in Analytical Chemistry—É. E. Rakovskii	121	135
Problems in the Analysis of the Noble Metals (Proceedings of the Fifth All-Union Conference on the Analysis of the Noble Metals)—V. I. Shlenskaya	123	136
Dmitrii Ivanovich Ryabchikov (On his sixtieth birthday)	126	138
CHRONICLE		
The Moscow Seminar on Analytical Chemistry	128	140

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
D. I. Ryabchikov
(Assistant Editor)
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII**
a publication of the Academy of Sciences of the USSR

© 1965 CONSULTANTS BUREAU ENTERPRISES, INC.
227 West 17th Street, New York 11, N. Y.

Volume 20, Number 2 February, 1965

CONTENTS

	PAGE ENG.	PAGE RUSS.
The Use of Optical Quantum Generators in Spectrographic Analysis—A. V. Karyakin, M. V. Akhmanova, and V. A. Kaigorodov	133	145
Amalgam Polarography with Accumulation. The Polarographic Behavior of Germanium —O. S. Stepanova, M. S. Zakharov, and L. F. Trushina	139	153
A Spectrophotometric Study of the Reactions of Yttrium, Lanthanum, and Cerium with Methyl Thymol Blue—L. S. Serdyuk and V. S. Smirnaya	146	161
Extraction of Trivalent Thallium from Chloride Solutions—Yu. A. Zolotov, I. A. Alimarin, and A. I. Sukhanovskaya	149	165
Amperometric and Potentiometric Titration of Trivalent Thallium with Dimethyl- and Diphenyldimercaptothiopyrones—L. M. Kutsenko and Yu. I. Usatenko	155	172
Reduction of Pentavalent Niobium and its Determination by Titrimetric and Photometric Methods—Yu. I. Bykovskaya	160	178
Determination of Ultrasmall Amounts of Bismuth and Antimony in Germanium and Germanium Tetrachloride by Anodic Volt-Amperometry on a Stationary Mercury Electrode—E. N. Vinogradova and A. I. Kamenev	165	183
A Polarographic Method for Determining Nickel in Luminophors—E. I. Denisov and L. S. Nadezhina	169	187
Extraction Separation of Noble Metals by Means of Triisobutylamine—V. F. Borbat, P. I. Bobikov, and É. F. Kouba	174	192
Coulometric Titration of Iridium (IV) in the Presence of Rhodium (III) by Means of Electrically Generated Copper (I)—N. I. Stenina and P. K. Agasyan	177	196
Determination of Water by Means of Calcium Hydride—V. I. Mikheeva and V. A. Kuznetsov	181	200
The Use of a High Frequency Discharge for the Isotopic Analysis of Nitrogen—Yu. A. Zonov.	185	205
Spectrographic Analysis of Open-Hearth Slag—L. V. Trapeznikov and L. M. Kurapina	189	209

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau Enterprises, Inc., 227 West 17th Street, New York, N.Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE ENG.	PAGE RUSS.
Complexometric Methods for Determining Magnesium and Calcium (Review) —V. N. Tikhonov	194	214
Fraction Trapping in Gas—Liquid Chromatography—M. Ts. Yanotovskii and V. G. Mairanovskii	200	221
The Microdetermination of Halogens in Each Other's Presence in Organic Compounds —T. V. Reznitskaya and E. I. Burtseva	204	225
Elemental Analysis of Fluoroorganic Compounds. Microdetermination of Fluorine in Highly Fluorinated Volatile Compounds by the Oxygen Flask Combustion Method —N. E. Gel'man and L. M. Kiparenko	207	229
Determination of the Amount of Acetyl Groups in Solid Samples of Natural Compounds —Ya. V. Rashkes	215	238
Polarographic Determination of 2-Methyl-5-Ethynylpyridine and 2-Ethynylpyridine Monomers—V. D. Bezuglyi and T. A. Alekseeva	220	244
Analysis of Phenylphenoxysilanes and Phenyldiphenylhydroxysilanes—A. P. Terent'ev, E. A. Bondarevskaya, R. N. Potsepkina, and S. V. Syavtsillo	224	249
Analysis of Phenolic Products by Partition Chromatography and Spectrophotometry —I. E. Kogan, M. M. Bragilevskaya, and M. E. Neimark	227	253
BRIEF COMMUNICATIONS		
Amperometric Determination of Mercury in Ores by Means of Unithiol—Kh. K. Ospanov and Z. B. Rozhdestvenskaya	232	258
Determination of Niobium in High Alloy Steels—V. M. Dorosh and N. A. Ivanova	233	259
Complexometric Analysis of Zirconium-Nickel-Aluminum Alloys—T. N. Nazarchuk and L. N. Mekhanoshina	235	260
The Photometric Determination of Small Amounts of Oxygen in Gases by Means of a Cuprous Chloride Solution—Yu. I. Berezina, M. M. Korosteleva, and V. V. Broit	238	262
Purification of Tetrabutylammonium Chloride for Polarographic Purposes —E. V. Kryukova and A. P. Tomilov	241	265
Detection and Photometric Determination of 2,3-Dichloro-1,4-naphthoquinone —S. E. Burkat, B. G. Ivanov, and N. V. Romanova	243	266
Thin Layer Chromatography of Pyridine Derivatives on an Unfixed Alumina Layer —I. I. Grandberg, G. K. Faizova, and A. N. Kost	245	268
Separate Determination of Hydrogen Peroxide and Lauroyl Peroxide in Each Other's Presence—M. M. Buzlanova, V. F. Stepanovskaya, and V. L. Antonovskii	248	271
Quantitative Determination of Sulfur-Bonded Hydrazine Groups by Potentiometric Titration with Sodium Nitrite—O. P. Shvaika, T. R. Mnatsakanova, and D. M. Aleksandrova	250	273
Gas Chromatography of Isomeric Allyldihydroxybenzenes—T. A. Rudol'fi, A. S. Leshchiner, and V. I. Lushchik	252	274
Phytol Determination by a Paper-Chromatographic Method—G. P. Tikhomirova and V. I. Kalitvyanskaya	254	276
A Modification of the Alkaline Nitrobenzene Oxidation Micromethod for Lignified Materials—R. Z. Pen	256	277
CRITICISM AND BIBLIOGRAPHY	258	279

CONTENTS (continued)

	PAGE ENG.	RUSS.
CHRONICLE		
Moscow Seminar on Analytical Chemistry—Yu. M. Dedkov	263	283

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
D. I. Ryabchikov
(Assistant Editor)
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII**
a publication of the Academy of Sciences of the USSR

© 1965 CONSULTANTS BUREAU ENTERPRISES, INC.
227 West 17th Street, New York 11, N. Y.

Volume 20, Number 3 March, 1965

CONTENTS

	PAGE ENG.	RUSS.
The Complex Forming Groups in p,p'-Bis-dimethylaminodiphenyl-3-(9-cyanoethyl)-carbazolyl-methyl Chloride—S. A. Lomonosov and M. K. Murshtein	267	289
High Frequency Titration. Communication 13. Titration of Acids in Glycol Media—V. A. Zarinskii and I. A. Gur'ev	272	294
A Scintillation Spectrographic Method for Mineralogical Analysis—Ya. D. Raikhbaum and Yu. I. Stakheev	276	299
The Use of a Thermionic Source of Positive Lithium Ions for the Analysis of Certain Gas Mixtures—Yu. A. Bragin and S. V. Starilova	281	305
Extraction Photometric Determination of Calcium as a Microimpurity in Barium Compounds—F. P. Gorbenko and V. V. Sachko	285	309
Sulfarsazen as a Complexometric Indicator during the Determination of Zinc, Cadmium, Nickel, and Lead—M. Z. Partashnikova and I. G. Shafran	288	313
Photometric Determination of Cerium and other Rare Earths by means of Arsenazo III—L. M. Budanova and S. N. Pinaeva	296	320
Oscillographic Determination of Lead in Bismuth—V. P. Gladyshev, G. P. Chinaeva, and A. M. Ustimov	300	325
The Electrolytic Reduction of Tin in the Presence of Tungsten—F. I. Kogan, P. N. Kovalenko, and Z. I. Ivanova	303	329
Determination of Di- and Trivalent Vanadium—L. I. Veselago	308	335
Fluorimetric Determination of Tantalum in High Purity Silicon Dioxide and Trichlorosilane by means of Rhodamine 6G—I. P. Alimarin, A. P. Golovina, I. M. Gibalo, and Yu. A. Mittsel'	312	339
Determination of Small Amounts of Tungsten in Molybdenum and its Compounds—A. V. Vinogradov and M. I. Dronova	315	343

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau Enterprises, Inc., 227 West 17th Street, New York, N.Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE ENG.	RUSS.
Extraction of Ethylenediaminetetracetates (Taking Iron and Thorium Complexes as Examples) —Yu. A. Zolotov, O. M. Petrukhin, and I. P. Alimarin	319	347
Coulometric Titration of Iridium (IV) with Electrically Generated Ferrocyanide or Iron (II) —N. I. Stepina and P. K. Agasyan	322	351
Complexometric Analysis of some Binary Alloys—O. I. Popova and I. N. Godovannaya	325	355
The Microdetermination of Nitrogen in Difficultly Combustible Organic Compounds —T. A. Mikhailova and N. V. Khromov-Borisov	328	359
A Spectrophotometric Method for Determining Primary, Secondary, and Tertiary Higher Alcohols in each other's Presence—V. D. Kapkin, M. A. Ratomskaya, V. B. Belyanin, and A. N. Bashkirov	332	364
Determination of Butyl Phosphoric Acids, Tributyl Phosphate, and Kerosene in each other's Presence in Aqueous Solution—A. N. Pukhonto, A. Ya. Zharovonkova, E. I. Moiseeva, and V. F. Smirnov	339	372
Photometric Determination of High Molecular Weight Autooxidation Products in Furfuryl Alcohol —G. N. Chernyaev and Yu. I. Khol'kin	342	375
Methods for Determining Ethylene Oxide (A Review)—N. A. Kolchina	346	380
BRIEF COMMUNICATIONS		
The Method for Determining the Nature of the Polarographic Current as a Function of the Height of the Mercury Column—L. Ya. Kheifets	355	388
The Photometric Determination of Copper in Magnesium and Magnesium Alloys by means of Bicinchoninic Acid—V. N. Tikhonov and I. S. Mustafin	358	390
A Conductometric Method for Determining Aluminum in the Presence of Iron, Calcium, and Magnesium—G. B. Pasovskaya	360	392
A Photometric Method for Determining Manganese in High Alloyed Steels and Alloys —V. F. Mal'tsev and L. P. Luk'yanenko	363	394
Analysis of Mixtures of Polyfluorochlorobenzenes by NMR and IR Spectroscopy—Yu. N. Molin, A. K. Petrov, G. I. Kulakova, and G. G. Yakobson	366	396
Paper Chromatography of Anthraquinone Derivatives. Chloroanthraquinones—N. S. Dokunikhin and B. N. Kolokolov	368	398
LETTER TO THE EDITOR		
Apropos the Article by E. A. Polyak: "Some Problems in Titration Theory. Communication 1. Titration Curves and the Possibility of Carrying out Titrimetric Determinations and Communication 2. Factors which Hinder Titration in Dilute Solutions" —A. A. Bugaevskii and L. P. Adamovich	371	401
CRITICISM AND BIBLIOGRAPHY		
G. V. Efremov. Literature on Inorganic Chemical Analysis—Reviewed by A. I. Busev and I. P. Efimov	374	404
H. A. Flaschka. EDTA Titrations. An Introduction to Theory and Practice — Reviewed by V. G. Goryushina	375	404
CHRONICLE		
Moscow Seminar on Analytical Chemistry—V. I. Ustinov	376	405

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
D. I. Ryabchikov
(Assistant Editor)
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU ENTERPRISES, INC.
227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 4 **April, 1965**

CONTENTS

	PAGE ENG.	PAGE RUSS.
Stationary Potentials of Amalgams in Acid Solutions Containing Molybdenum —E. F. Speranskaya and T. I. Lysenko	381	409
Characteristic Features of the Processes Which Affect Spectrographic-Analysis Results on Injecting Powders into Arc Plasma—A. K. Rusanov and N. T. Batova	387	415
The Rotation of Calibration Curves in Photoelectric Methods of Spectrographic Analysis —V. V. Gusarskii, N. I. Tarasevich, and V. M. Turkina	392	421
Construction of a Single Calibration Curve for the Spectrographic Analysis of Silicates —K. V. Dubovik and M. M. Pavlyuchenko	396	426
Calculation of Two-Stage Schemes for Chromatographic Analysis—M. S. Vigdergauz and M. I. Afanas'ev	401	432
The Photometric Determination of Strontium—Yu. M. Dedkov, V. P. Makarova, F. A. Vinokurova, M. V. Chashchikhina, and S. B. Savvin	408	440
An Atomic Absorption Method for Determining Aluminium and Zinc as Impurities in Solid Samples of Refractory Metals—G. I. Nikolaev	412	445
Spectrographic Determination of Impurities in Boron Phosphide—I. Yu. Andreeva and M. M. Kler	415	448
The Use of Alkyl Phosphoric Acids in Analytical Chemistry. Communication 3. Back Extraction of Indium and Determination of Small Amounts of it in Ores and Intermediates of the Lead-Zinc and Copper Industries—I. S. Levin and T. G. Azarenko	419	452
Complexometric Determination of Zirconium Using Stilbazogall II as Indicator —A. I. Cherkesov, Yu. V. Pushinov, and V. S. Tonkoshkurov	426	459
A Spectrophotometric Study of Dimercaptothiopyrone Derivatives as Reagents for Bismuth Determination—Yu. I. Usatenko, A. M. Arishkevich, and A. G. Akhmetshin	429	462

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau Enterprises, Inc., 227 West 17th Street, New York, N.Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE ENG.	PAGE RUSS.
Luminescent Determinationof Uranium (VI) in Carbonate Solutions in the Presence of Dibutyl Phosphate—T. S. Dobrolyubskaya	436	470
Spectrophotometric Determination of Microgram Amounts of Technetium as Its Hexachlorotechnetate Ion in Concentrated Hydrochloric Acid—A. A. Pozdnyakov	439	473
Extraction of Ferric 8-Hydroxyquinolate—Yu. A. Zolotov and N. M. Kuz'min	442	476
Differential Spectrophotometric Determination of Silicon in the Products of the Titanium Industry—V. N. Tikhonov and A. N. Chernysheva	452	487
A Semimicromethod for the Differential Determination of Nitric Acid and Organic Acids in their Mixtures—A. P. Kreshkov, L. N. Bykova, N. A. Kazaryan, and E. S. Rubtsova	457	492
The Use of OsO_4 as a Catalyst in Titrimetry. Communication 3. Potentiometric Determination of Chlorate with Arsenite—P. K. Norkus	460	496
Chemico-Spectrographic Determination of Traces of Impurities in Copper and Its Compounds —F. L. Babina, A. G. Karabash, Sh. I. Peizulaev, and E. F. Semenova	465	501
Polarographic Determination of Certain Ethyl Methacrylate Amino Derivatives in Polymers and Copolymers with N-Vinylcarbazole—V. D. Bezuglyi and Yu. P. Ponomarev	469	505
BRIEF COMMUNICATIONS		
Spectrographic Analysis of Multicomponent Alloys Which do not Form Solid Solutions —V. S. Sotnikov, O. I. Volodina, A. M. Kononova, and M. N. Morozova	475	512
Photometric Determination of Thorium in Natural Water by Means of Arsenazo III —F. M. Aksel'rod and Yu. S. Lyalikov	478	514
"Wet Oxidation" Mechanism of Chlorinated Hydrocarbons—M. A. Klisenko	480	516
Letter to the Editor—V. A. Klimova, G. F. Anisimova, and G. I. Iosilovich	484	520
Criticism and Bibliography—A. K. Lavrukhina, T. V. Malysheva, and F. I. Pavlotskaya	485	521
P. G. Jeffery and P. J. Kipping. Gas Analysis by Gas Chromatography—B. I. Anvaer	487	522
New Books	488	523
Vassa Nikolaevna Podchainova (On her 60th Birthday)	489	524
CHRONICLE		
Moscow Seminar on Analytical Chemistry—Yu. M. Dedkov and V. I. Ustinov	490	525

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
D. I. Ryabchikov
(Assistant Editor)
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU ENTERPRISES, INC.
227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 5 **May, 1965**

CONTENTS

	PAGE ENG.	PAGE RUSS.
Ultramicromethods of Chemical Analysis Communication 7. Alkalimetric Titration by Means of a Gold Electrode —M. N. Petrikova and I. P. Alimarin	493	529
The Use of Diphenylhydrazoneoxalatediamide in Analytical Chemistry —N. V. Koshkin	497	534
Detection and Elimination of Contamination During the Analysis of Special-Purity Materials—L. S. Vasilevskaya, V. P. Muravenko, and A. I. Kondrashina	503	540
Instrumental Errors During Precision Determination of the Isotopic Composition of the Elements—É. M. Galimov, V. A. Grinenko, and V. I. Ustinov	509	547
Flame-Photometric Determination of Gadolinium and Yttrium Using an Apparatus with Increased Dispersion—L. A. Ovchar, R. A. Vitkun, and N. S. Poluéktov	515	554
The Interaction of Trivalent Thallium with Potassium Ethyl and Isoamyl Xanthates. Amperometric and Potentiometric Titration—Yu. I. Usatenko and L. M. Kutsenko	521	561
Extraction of Titanium with 2-Ethylhexylphosphoric Acids—Yu. B. Kletenik and I. A. Bykhovskaya	526	567
Sets of Reagents for the Photometric Determination of Zirconium—Yu. M. Dedkov, D. I. Ryabchikov, and S. B. Savvin	532	574
Antipyrine Dyes as Reagents for the Photometric Determination of Antimony —A. I. Busev, E. S. Bogdanova, and V. G. Tiptsova	542	585
A Study of the Reduction of Rhenium (VII) by Stannous Chloride and its Use in Analytical Practice—N. Iordanov and M. Pavlova	548	591
Formamidinesulfinic Acid in the Analytical Chemistry of the Platinum Metals Communication 2. Separation of Rhodium and Iridium—I. V. Prokof'eva and A. E. Bukanova	554	598

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau Enterprises, Inc., 227 West 17th Street, New York, N.Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE ENG.	PAGE RUSS.
Spectrographic Analysis of High-Purity Zirconium—O. F. Degtyareva and L. G. Sinitsyna	559	603
Determination of Microgram Amounts of Oxygen Dissolved in Water by the Thallium-Column Method at 32 and 40°C—O. L. Kabanova and E. A. Zalogina	564	608
The Use of OsO_4 As a Catalyst in Titrimetry Communication 4. Determination of Chlorine Dioxide and Chlorite—P. K. Norkus	567	612
The Use of Column Partition Chromatography for Separating Inorganic Materials —G. S. Katykhin	570	615
A Chronoconductometric Method for Determining Weak Acids—A. P. Kreshkov and T. A. Khudyakova	580	625
Determination of Methoxy Groups in Methylcellulose—A. I. Lebedeva and E. S. Pisarenko	585	630
BRIEF COMMUNICATIONS		
Determination of Sevin in Air and Biological Materials—M. A. Klisenko	588	634
A Study of the Interaction of Thorium Ions with Methyl Thymol Blue—V. D. Vasilenko and M. V. Shanya	591	636
Extraction Photometric Determination of Arsenic—R. A. Karanov and A. N. Karolev	594	639
CRITICISM AND BIBLIOGRAPHY		
E. B. Sandell. Colorimetric Determination of Traces of Metals —S. B. Savvin	596	641
E. Harbers, Gemeinsam mit G. F. Domagk und Dr. W. Müller, Die Nucleinsaüren —A. I. Busev	598	642
Petr Nikitin Kovalenko (On his Seventieth Birthday)	599	643
CHRONICLE		
All-Union Inter-University Scientific Conference on the Determination of Microamounts of the Elements G. P. Rudzit	601	645
Moscow Seminar on Analytical Chemistry Yu. M. Dedkov and V. I. Ustinov	602	645

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
D. I. Ryabchikov
(Assistant Editor)
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU ENTERPRISES, INC.
227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 6 June, 1965

CONTENTS

	PAGE ENG.	PAGE RUSS.
Effect of Particle Size and Fractional Evaporation of the Elements on Spectral Line Intensity on Injecting Powders into ARC Plasma—A. K. Rusanov and N. T. Batova	607	649
The Mutual Influence of the Alkali Metals During Their Flame Photometric Determination. Communication 2—T. F. Borovik-Romanova	612	655
Solvent Extraction of Chelate Compounds of the Elements with 1-Phenyl-3-methyl-4-benzoylpyrazolone-5. Extraction of Calcium—Yu. A. Zolotov and V. G. Lambrev	615	659
New Reagents for Zirconium—A. I. Cherkesov and Yu. V. Pushinov	621	665
The Effect of Chemical Peactions on the Evaporation Time of Tin from the Crater of a Carbon Electrode—G. I. Zavorotnova	626	671
New Photometric Method for Determining Niobium and Tantalum in Metals and Alloys. Communication 4. A Study of the Niobium Complex with 1-(2-Pyridylazo)resorcinol in the Presence of Oxalate and Tartrate Ions and Other Addenda—S. V. Elinson, L. I. Pobedina, and A. T. Rezova	630	676
Catalytic Reduction Waves of the Peroxide Complex of Niobium in a Sulfuric Acid Supporting Electrolyte—R. K. Sharipov and O. A. Songina	636	683
The Polarographic Behavior of Germanium in the Presence of Alizarin Red S —I. A. Tserkovnitskaya and V. N. Epimakhov	641	688
Determination of Nitrogen in Metals by an Isotopic Dilution Method—K. B. Orolova and E. N. Vitol'	646	694
The Sensitivity of the Phosphorescent Determination of Oxygen in Gases —I. A. Zakharov and V. B. Aleskovskii	651	700

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau Enterprises, Inc., 227 West 17th Street, New York, N.Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE ENG.	PAGE RUSS.
Amperometric and Visual Titration of Chlorides, Bromides, and Thiocyanates with Potassium Nitrate in Anhydrous Acetic Acid—A. P. Kreshkov, V. A. Bork, L. A. Shvyrkova, and M. I. Aparsheva	655	704
Mass-Spectrographic Analysis of Solids—M. S. Chupakhin and D. V. Kormilitsyn	660	709
Quantitative Elemental Analysis of Organic Compounds. Microdetermination of Carbon and Hydrogen by Combustion in a Wide Capsule —N. É. Gel'man and N. S. Sheveleva	671	719
Polarographic Determination of Allyl Alcohol—G. P. Tikhomirova and S. L. Belen'kaya	678	727
Spectropolarimetric Analysis. Communication 5. Determination of of p-Methoxybenzaldehyde in the Presence of the Ortho Isomer—V. M. Potapov, A. P. Teren'tev, and G. P. Moiseeva	681	73
Determination of Halogenated Anthraquinones in the Presence of Amino Derivatives of Anthraquinone by a Polarographic Method—V. D. Bezuglyi, L. Ya. Kheifets, and E. A. Preobrazhenskaya	684	733
Gas-Liquid Chromatographic Determination of Glycerol—V. N. Balakhontseva and R. M. Poltinina	689	739
BRIEF COMMUNICATIONS		
A Study of the Precipitation of Calcium as Molybdate by Means of Phototurbidimetric Titrations—K. F. Kharitonovich and M. L. Chepelevetskii	693	743
Determination of Samarium, Gadolinium, Dysprosium, Erbium, and Scandium (0.01-0.6%) in Steels and Alloys by a Chemico-Spectrographic Method —A. A. Fedorov and N. N. Sorokina	696	745
Determination of Boron in Some Natural Materials by Means of Salicylic Acid and Crystal Violet—A. E. Vasilevskaya and L. K. Lenskaya	699	747
Microdetermination of Carbonate from the Volume of Carbon Dioxide Liberated —D. S. Gorbenko-Germanov and R. A. Zenkova	702	749
A Radiometric Study of the Distribution of Chlorine Between the Liquid and Gaseous Phases of Concentrated Nitric Acid—V. A. Kachanov	704	751
Rapid Iodometric Determination of Phosphite—P. K. Norkus, A. M. Lunyatskas, and S. P. Tsarankute	707	753
Determination of Methoxy and Cyanoethoxy Groups in Each other's Presence —M. P. Kozlov and I. I. Ermilova	710	755
The Analysis of Chlorophenylisocyanates by Gas Liquid Chromatography —Yu. A. Strepikheev, R. A. Semenova, and A. N. Ushakov	712	757
Spectrophotometric Determination of Allyl Alcohol—A. G. Sokolov and N. D. Klyueva	714	759
Photometric Determination of Small Amounts of Pyridine—R. V. Gorskaya and N. T. Yarym-Agaeva	715	760
CRITICISM AND BIBLIOGRAPHY		
J. Bercik and J. Tölgyessy. Potenciometria	717	762
New Books and a Review	718	763
INFORMATION		
The Sixtieth Birthday of Fedor Mikhailovich Shemyakin	719	764
Moscow Seminar on Analytical Chemistry	721	765

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII,**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU, A DIVISION OF PLENUM PUBLISHING CORPORATION, 227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 7 **July, 1965**

CONTENTS

Through an error in the pagination of Zhurnal Analiticheskoi Khimii, the July issue, No. 7, was numbered from 769 to 904, the August issue, No. 8, from 769 to 888, and the September issue, No. 9, from 889 to 1032. Thus, the page numbers from 769 to 904 are duplicated. In the translation all references to pages in Zhurnal Analiticheskoi Khimii will be to the numbers actually printed on the pages, preceded by the issue number.

	ENG. PAGE	RUSS. PAGE
The Effect of Chemical Reactions on Spectral Line Intensity on Injecting Powders into Arc Plasma—A.K. Rusanov and N. T. Batova	725	769
The Relationship between Systematic Errors in the Spectrographic Determination of Tin and the Amount of Chemical Reagents—G. I. Zavorotnova	729	774
Photometric Determaination of Microgram Amounts of Copper, Zinc, and Lead in Natural Water by Means of Xylenol Orange—T. V. Gurkina and A. M. Igoshin	733	778
Comparision of Chemical Methods for Determining Beryllium—L. M. Moiseeva and N. M. Kuznetsova	737	782
Determination of Lead, Copper, Bismuth, and Cadmium in Refractory Alloys —Z. S. Mukhina, G. S. Kotova, and R. A. Kuz'micheva	740	785
The Distillation of Niobium and Tantalum During Their Spectrographic Determination —E. A. Pometun	744	789
A Spectrophotometric Study of the Reaction between Gallium and Xylenol Orange—P. Kish and M. I. Golovei	749	794
Amperometric Titration of Molybdenum with 8-Mercaptoquinoline—V. I. Suprunovich and Yu. I. Usatenko	754	800
Effect of Different Factors on the Anodic Peak of Uranium in Amalgam Polarography with Preliminary Accumulation—E. K. Spirin and A. G. Stromberg	761	807
Photometric Determination of Microamounts of Iron by means of Pyrocatechol Violet—I. I. Birmantas and É. I. Yasinskene	764	811
Spectrographic Analysis of High-Purity Lead—O. F. Degtyareva and M. F. Ostrovskaya	767	814

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau, A Division of Plenum Publishing Corporation, 227 West 17th Street, New York, N. Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE	RUSS. PAGE
Thermodynamic Principles of the Vacuum-Fusion Method for Determining Gases in Metals—L. L. Kunin	774	822
Simultaneous Determination of Carbon, Hydrogen, and Thallium in Complex Compounds—A. I. Lebedeva, N. A. Nikolaeva, and E. V. Shikhman	782	832
Sodium Boron Hydride in Organic Analysis. Communication 1. Determination of Carbonyl Groups in Organic Materials—A. P. Terent'ev and I. S. Novikova	785	836
Polarographic Determination of Organic Compounds Reduced in the Far-Negative Potential Region. Communication 1. Polarography of Alkyl-Substituted Styrene—V. D. Bezuglyi and Yu. P. Ponomarev	791	842
Gas-Liquid Chromatography of the Stereoisomers of Unsaturated Compounds —M. Ts. Yanotovskii and B. A. Rudenko	796	848
Separation of Certain Ketones by Thin-Layer Chromatography—M. M. Buzlanova and V. F. Stepanovskaya	805	859
Carbonyl-Band Intensities in the Infrared Spectra of Solid Samples of Some Steroid Compounds—Ya. V. Rashkes	808	863
Chromatography of Pyrazoles on Acetylated Paper—S. Tabak, I. I. Grandberg, and A. N. Kost	812	869
The Present State of Methods for Determining Pesticides (A Review)—I. K. Tsitovich	817	875
BRIEF COMMUNICATIONS		
Determination of Zinc in Soil by a Spectrographic Method—A. S. Sambueva, S. A. Sverchinskaya, and S. A. Shipitsyn	833	889
Determination of Free Aluminum in Aluminides—V. P. Kopylova and T. N. Nazarchuk	836	892
Extraction Separation of Gallium from Indium by Means of Cupferron —Sherif Abdel Hamid, I. P. Alimarin, and I. V. Puzdrenkova	838	894
Determination of Cerium in Magnesium Alloys by Means of a Divalent-Vanadium Salt Solution—S. I. Gusev and L. A. Ketova	841	896
Treatment of INZ-600 Support for Gas-Liquid Chromatography—R. I. Sidorov and A. A. Khvostikova	844	898
CRITICISM AND BIBLIOGRAPHY		
Analytical Methods for Brine and Salts. Second Edition. —N. S. Nikolaev	846	900
New Books	847	900
CHRONICLE		
All-Union Conference on the Use of Polarography in Polymer Chemistry and Technology—V. N. Dmitrieva	848	902

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII,**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU, A DIVISION OF PLENUM PUBLISHING CORPORATION, 227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 8 **August, 1965**

CONTENTS

Through an error in the pagination of Zhurnal Analiticheskoi Khimii, the July issue, No. 7, was numbered from 769 to 904, the August issue, No. 8, from 769 to 888, and the September issue, No. 9, from 889 to 1032. Thus, the page numbers from 769 to 904 are duplicated. In the translation all references to pages in Zhurnal Analiticheskoi Khimii will be to the numbers actually printed on the pages, preceded by the issue number.

	PAGE	RUSS. PAGE
Increasing the Sensitivity of the Method of Amalgam Polarography with Preliminary Accumulation by Increasing the Surface of the Mercury Ammonium Amalgam at Elevated Temperatures in Nonaqueous Solutions—Yu. A. Karabanov and A. G. Stromberg	851	769
Insoluble Polycomplexons—E. B. Trostyanskaya and G. Z. Nefedova	855	775
The Use of Ultrasonics for Increasing the Sensitivity of Amalgam Polarography with Preliminary Accumulation—É. K. Spirin	860	781
Comparison of Oxidized-Platinum and Glass-Indicator Electrodes for Acid-Base Titration. The Effect of Nonaqueous Solvents, The Nature of the Titrant and of Different Additives—V. E. Petrakovich, O. M. Podurovskaya, and Ya. I. Tur'yan	863	785
A Rapid Method for Determining Silver by Anodic Amperometric Titration with Sodium Diethyldithiocarbamate in an Ammoniacal Medium—V. I. Lotareva	867	790
Neutron-Activation Determination of Gold in Rocks and Meteorites—G. A. Perezhogin and I. P. Alimarin	870	793
The Use of 3-Acetylhexanone-2 for Determining Beryllium in Mineral Raw Material and in the Products Obtained During Processing—L. M. Moiseeva, E. K. Mashentseva, and N. M. Kuznetsova	875	799
A Spectrophotometric Study of the Interaction of Scandium Ions with Pyrocatechol Violet—S. P. Onosova and G. K. Kuntsevich	877	802
A Study of some Organic Reagents for Pentavalent Neptunium—É. G. Chudinov	880	805
Photometric Determination of Antimony as an Impurity in Tellurium—A. I. Busev, V. G. Tiptsova, E. S. Bogdanova, and A. M. Andreichuk	887	812

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau, A Division of Plenum Publishing Corporation, 227 West 17th Street, New York, N. Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE	RUSS. PAGE
A Kinetic Method for Determining Microamounts of Molybdenum—K. B. Yatsimirskii and A. P. Filippov	890	815
Direct Determination of Uranium in Organic Solvents—L. Bakos and L. Andras	894	820
A Gravimetric Method for Determining Nickel—Th. I. Pirtea	898	824
Amperometric Titration of Fluoride Ions with Zirconium Salts—V. P. Novak, B. E. Reznik, and V. F. Mal'tsev	901	827
Determination of Microimpurities in Cesium, Potassium, and Sodium Hydroxides—M. M. Godneva and R. D. Vodyannikova	905	831
A Rapid Gas-Chromatographic Method for Determining Oxygen in Organic Compounds—L. V. Kuznetsova, E. N. Stolyarova, and S. L. Dobychin	910	836
High-Frequency Titration of Dicarboxylic Acids in a Dimethylformamide Medium—A. P. Kreshkov, L. N. Bykova, and O. F. Kirillova	914	840
A Fluorescent Method for the Separate Determination of Ergot Alkaloids and Tryptophane—A. N. Kost, T. V. Koronelli, R. R. Lideman, and R. S. Sagitullin	918	845
Gas-Chromatographic Separation of Isomeric Alkyl Benzenes—S. V. Vitt, N. A. Zharikova, E. A. Paskonova, and V. B. Bondarev	923	850
Chromatographic Separation of Quinoline and Isoquinolines in their Mixtures—Yu. I. Chumakov and M. N. Filippovich	929	856
Quantitative Determination of 2,6-Ditertiary Butyl-4-Methylphenol (Ionol)—V. N. Vetchinkina and L. K. Obukhova	933	860
BRIEF COMMUNICATIONS		
The Use of an Apparatus in which Stationary Mercury Microelectrodes for Determining Ultrasmall Amounts of Test Materials are Automatically Produced and Removed—A. M. Demkin and Ya. P. Gokhshtein	936	864
Extraction of Chelate Compounds in the Presence of Salts. Communication 3. Cobalt(II) and Uranium (VI) Acetylacetonates—V. V. Bagreev and Yu. A. Zolotov	940	867
Photometric Determination of Scandium by Means of Stilbazochrom—N. M. Alykov and A. I. Cherkesov	943	870
Titrimetric Determination of Metallic Aluminum in Ruby—V. G. Sil'nichenko and F. I. Dmitrieva	945	871
Photometric Determination of Phosphorus in Organic Compounds—Ya. A. Mandel'baum, A. F. Grapov, and A. L. Itskova	947	873
The Thin-Layer Chromatography of Oximes—M. M. Buzlanova and V. F. Stepanovskaya	948	874
Paper-Chromatographic Analysis of Dicarboxylic Acids—B. E. Kuvaev and N. S. Imyanitov	951	876
Chromatographic Separation of Carbazole from Anthracene and Phenanthrene during the Analysis of Coal Tar Products—T. M. Markacheva and L. I Kornilova	954	879
Detection of 5-(1-Methylbutyl)-5-Ethylthiobarbituric Acid and its Sodium Salt—V. I. Lobanov	957	881
CRITICISM AND BIBLIOGRAPHY		
Scientific Reports Given at the International Conference on Analytical Chemistry in Leuna-Merseburg—V. M. Ivanov	959	883
New Methods for Determining Phosphorus—F. P. Sudakov	960	884
New Books	960	884
CHRONICLE		
Moscow Seminar on Analytical Chemistry	962	885

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII,**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU, A DIVISION OF PLENUM PUBLISHING CORPORATION, 227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 9 **September, 1965**

CONTENTS

Through an error in the pagination of Zhurnal Analiticheskoi Khimii, the July issue, No. 7, was numbered from 769 to 904, the August issue, No. 8, from 769 to 888, and the September issue, No. 9, from 889 to 1032. Thus, the page numbers from 769 to 904 are duplicated, In the translation all references to pages in Zhurnal Analiticheskoi Khimii will be to the numbers actually printed on the pages, preceded by the issue number.

	PAGE	RUSS. PAGE
The Analytical Possibilities of Salicylal-2-Aminophenol. Communication 1. The Behavior of Salicylal-2-Aminophenol in Aqueous Solution—A. A. Tumanov and V. S. Efimychev	965	889
A Study of the System: Metal—Anion—Basic Dye—Organic Solvent. The Form in Which Dye Reagents Exist and Their Optical Characteristics—I. A. Blyum and N. N. Pavlova	973	898
Differential Photometry Using Photoelectric Colorimeters with Optical Compensation —V. F. Barkovskii and L. N. Khurtova	984	911
The Effect of Instrumental Error on the Precision and Sensitivity of X-Ray Spectrographic Analysis. Communication 1—Yu. G. Lavrent'ev and E. E. Vainshtein	990	918
A Pulsepolarographic Method for Analyzing Solutions at Elevated Temperatures —B. Ya. Kaplan, I. A. Sorokovskaya, and O. A. Shiryaeva	998	927
Increasing the Accuracy of Quantitative Analysis on a Gas Chromatograph with an Argon Ionization Detector—B. G. Belen'kii, V. A. Orestova, and Yu. E. Eizner	1003	934
Photometric Determination of Aluminum by Means of Xylenol Orange—V. I. Tikhonov	1009	941
Photometric Determination of Niobium in Zirconium Based Alloys by Means of Sulfochlorophenol S—S. B. Savvin, V. A. Bortsova, and E. N. Malkina	1014	947
Determination of Molybdenum and Tungsten in High Alloy Steels and Alloys on One Aliquot by Amperometric Titration—V. I. Bogovina, V. P. Novak, and V. F. Mal'tsev	1018	951
Indicators for the Complexometric Determination of Manganese—V. A. Rad'ko, E. M. Yakimets, and E. F. Vladimirtsev	1022	955
Determination of Rhenium by a Kinetic Method—D. I. Ryabchikov, V. I. Lazareva, and A. I. Lazarev	1026	960

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau, A Division of Plenum Publishing Corporation, 227 West 17th Street, New York, N. Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE	RUSS. PAGE
2, 7-Dichlorotropic Acid as a Reagent for the Photometric Determination of Iron (III). A Spectrophotometric Study of the Complex Forming Process—N. N. Basargin and Zh. I. Nemtseva	1032	966
β-Mercaptohydrocinnamic Acid and its Esters as Reagents for the Extraction Photometric Determination of Palladium—A. I. Busev and D. Kh. Vin'	1040	976
An Attachment for Adapting Type FÉK Photocolorimeters for Gas Analysis (Photometric Determination of Water Vapor, Sulfur Dioxide, and Acetylene in Gas Mixtures) —R. I. Alekseev and E. A. Tokarskaya	1046	983
Elemental Organic Analysis by the "Wet Oxidation" Method. Communication 9. Analysis of Silicotitanophosphoroorganic Compounds—B. M. Luskina, A. P. Terent'ev and N. A. Gradskova	1052	990
Polarographic Behavior of 5-Bromo-3, 6-Dinitropseudocumene—G. P. Tikhomirova and S. L. Belen'kaya	1055	994
Polarographic Determination of Aromatic Amines Using a Rotating Platinum Anode —V. D. Bezuglyi and Yu. I. Beilis	1060	1000
Gas Liquid Chromatographic Analysis of Hydroxayldehydes—L. M. Andronov and Yu. D. Norikov	1066	1007
Analysis of Isophthalyl Chloride—E. A. Emelin and G. P. Svistunova	1069	1010
BRIEF COMMUNICATIONS		
Spectrographic Determination of Indium and Germanium in Concentrates from the Lead-Zinc Industry—E. I. Brainin and L. I. Pyasetskaya	1072	1014
Extraction Conditions for Butylrhodamine B Fluoniobate—N. I. Pavlova and V. G. Sayapin	1075	1016
Determination of Phosphate Ions and Their Removal During Alkali Metal Determination —I. V. Tananaev and N. A. Dzhabishvili	1078	1019
Photometric Microdetermination of Potassium, Rubidium, Cesium, and Thallous Ions as Their Dipicrylaminates (Hexanitrodiphenylaminates)—D. S. Gorbenko-Germanov and R. A. Zenkova	1080	1020
The Impurity Content of Normal Paraffin Hydrocarbons Used in Analysis—V. F. Fedonin, N. F. Tolikina, O. N. Belyatskaya, and V. E. Gul'	1083	1022
CRITICISM AND BIBLIOGRAPHY		
S. V. Elinson, K. I. Petrov., A. I. Busev, ed.—The Analytical Chemistry of Zirconium and Hafnium—Reviewed by V. M. Peshkova	1085	1025
J. Stary. The Solvent Extraction of Metal Chelates—Reviewed by Yu. A. Zolotov	1086	1026
INFORMATION		
Aleksandr Pavlovich Vinogradov (On his Seventieth Birthday)	1087	1027
Moscow Seminar on Analytical Chemistry—Yu. M. Dedkov and O. M. Petrukhin	1089	1029

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII,**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU, A DIVISION OF PLENUM PUBLISHING CORPORATION, 227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 10 October, 1965

CONTENTS

	PAGE	RUSS. PAGE
The Effect of Instrumental Error on the Precision and Sensitivity of x-Ray Spectrographic Analysis. Communication 2—Yu. G. Lavrent'ev and É. E. Vainshtein	1093	1033
The Effect of Measurement Incoherence During the Photometric Measurement of Weak Spectral Lines—M. P. Burmistrov and V. V. Nedler	1098	1038
The Effect of Electrode Area and Volume of Solution on the Sensitivity of Amalgam Polarography with Accumulation—A. G. Stromberg and A. A. Kaplin	1103	1043
Oscillographic Polarography with a Stepwise Voltage Sweep—M. R. Vyaselev	1108	1048
Lithium Aluminum Hydride in Analysis. Communication 2. Determination of Lithium Aluminum Hydride Content —A. P. Terentev, G. G. Larikova, E. A. Bondarevskaya, and G. E. Pravidlo	1113	1054
The Use of Antipyrine Derivatives in Analytical Chemistry. Communication 1. The Extraction Photometric Determination of Titanium by Means of Diantipyrylmethane and Stannous Chloride—V. N. Podchainova and A. V. Dolgorev	1117	1059
The Effect of Certain Factors on the Anodic Peaks of Copper and Lead During Amalgam Polarography with Accumulation—A. I. Kamenev and E. N. Vinogradova	1121	1064
Spectrophotometric Determination of Scandium by Means of Some 8-Hydroxyquinoline Azo Derivatives—A. I. Busev and G. E. Lunina	1125	1069
Extraction Photometric Determination of Certain Rare Earths by Means of Thenoyltrifluoroacetone—V. T. Mishchenko, R. S. Layér, N. P. Efryushina, and S. S. Poluéktov	1129	1073
A Study of Complex Formation Between Yttrium and Methyl Thymol Blue—G. S. Tereshin, A. R. Rubinshtein, and I. V. Tananaev	1138	1082
Amperometric Determination of Gallium in Gallium Arsenide and Phosphide—Z. A. Gallai, N. M. Sheina, and I. P. Alimarin	1147	1093
The Analytical Chemistry of Thorium. Communication 4. Complexometric Determination of Thorium in Monazite Concentrates After Isolating it by Means of Indenyl-2-phosphonic Acid —V. F. Luk'yanov and A. B. Kozlova	1150	1097

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau, A Division of Plenum Publishing Corporation, 227 West 17th Street, New York, N. Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE	RUSS. PAGE
Chemiluminescent Determination of Microamounts of Vanadium—A. K. Babko and N. M. Lukovskaya	1153	1100
A Kinetic Method for Determining Microamounts of Rhenium in Solution—V. K. Povlova and K. B. Yatsimirskii	1158	1106
Spectrophotometric Determination of Styrene and Vinylmethyladipate in Polymerization Products—N. S. Antonenko, M. S. Kodner, and M. N. Adamova	1163	1112
A Polarographic Method for the Quantitative Determination of 1-Chloro-1, 3-dibromopropane in the Presence of 1-Chloro-3-bromopropane—I. M. Levinson and A. E. Skvortsova	1167	1116
The Use of Polymers in Quantitative Reversed Partition Chromatography of Organic Bases —V. D. Chmil' and Yu. V. Shostenko	1173	1122
Quantitative Determination of Some Polynuclear Aromatic Hydrocarbons on the Basis of their Quasilinear Fluorescence Spectra—R. I. Personov and T. A. Teplitskaya	1176	1125
BRIEF COMMUNICATION		
The Use of a Hollow Cathode Discharge Tube in Atomic Absorption Spectrophotometry —N. P. Ivanov, M. N. Gusinskii, and A. D. Esikov	1183	1133
CRITICISM AND BIBLIOGRAPHY		
Yu. V. Morachevskii and I. A. Tserkovnitskaya. "Fundamentals of the Analytical Chemistry of Rare Elements"—Reviewed by V. M. Ivanov	1186	1136
H. M. El-Badry. "Micromanipulators and Micromanipulation"—M. N. Petrikova	1187	1137
New Books	1189	1138
INFORMATION		
Anatolii Konstantinovich Rusanov (On His Sixtieth Birthday)	1190	1139
CHRONICLE		
Moscow Seminar on Analytical Chemistry—O. M. Petrukhin and Yu. M. Dedkov	1192	1141

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII,**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU, A DIVISION OF PLENUM PUBLISHING CORPORATION, 227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 11 **November, 1965**

CONTENTS

	PAGE	RUSS. PAGE
Extraction of Reduced Phosphomolybdic Acid with Oxygen-Containing Solvents — V. I. Klitina, F. P. Sudakov, and I. P. Alimarin	1197	1145
Extraction of Indium 8-Hydroxyquinolate — Yu. A. Zolotov and V. G. Lambrev.	1204	1153
The Use of Complexon III (Disodium Ethylenediaminetetracetate — EDTA) for the Radiometric Determination of Traces of Metals by Means of Electrophoresis — V. Knoblokh and I. Stary.	1210	1160
Potentiometric Titration in Anhydrous Acetic Acid by Means of an Ion Exchange Membrane Electrode — A. V. Gordievskii, É. L. Filippov, V. S. Shterman, and V. V. Trizno.	1214	1164
A Study of Hydroquinone Oxidation — E. M. Strel'tsova and V. I. Petrashen'.	1218	1169
A Study of the Passage of Elements from Oxide Mixtures by the Reabsorption Method — K. V. Dubovik and M. M. Pavlyuchenko.	1222	1174
The Two-Standards Method for Eliminating Systematic Errors During Measurement of Isotopic Composition on a Mass-Spectrometer — V. I. Ustinov, É. M. Galimov, and V. A. Grinenko.	1227	1180
Separation of Microamounts of Calcium from Barium, Strontium, and Magnesium by Precipitation — I. A. Tarkovskaya and F. P. Gorbenko.	1231	1185
Gravimetric Methods for Determining Magnesium, Barium, Zinc, Manganese, Cobalt, and Nickel by Means of Brilliant Yellow — A. I. Cherkesov and Yu. V. Pushinov.	1237	1191
A Study of the Effect of Oxygen on the Reduction of Cadmium Ions by an Oscillopolarographic Method — V. M. Ropot and E. G. Chikryzova.	1241	1196
Spectrophotometric Determination of Mercury as an Impurity in Selenium by Means of 1,5-di-(β-naphthyl)-thiocarbazone — V. G. Tiptsova, A. M. Andreichuk, and L. A. Bazhanova.	1245	1200
A Chemico-Spectrographic Method for Determining Microamounts of Indium in Plant Liquors — T. P. Taskaeva and É. E. Vainshtein.	1249	1204
Some β-Mercaptoketones as Analytical Reagents. Extraction Photometric Determination of Palladium by Means of β-Mercapto-β-Phenylpropiophenone — A. I. Busev and D. Kh. Vin'.	1253	1208

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau, A Division of Plenum Publishing Corporation, 227 West 17th Street, New York, N. Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE	RUSS. PAGE
Determination of Hydrogen in Lithium – V. I. Malyshev, Z. M. Turovtseva, and N. F. Litvinova	1258	1214
Complexometric Methods for Determining Aluminum (A Review) – V. I. Tikhonov	1263	1219
Sodium Boron Hydride in Organic Analysis. Communication 2. Sugar Analysis – A. P. Terent'ev and N. S. Novikova	1269	1226
Polarographic Determination of Hexachlorobutadiene – Yu. S. Lyalikov and A. S. Solonar'	1271	1228
Polarographic and Acidimetric Determination of N-Vinylpyrrolidone by the Mercuric Acetate Method – V. D. Bezuglyi and Yu. P. Ponomarev	1274	1231
An Internal-Standard Method for the Quantitative Infrared Determination of 7-Aminoenanthic Acid in 9-Aminopelargonic Acid – I. A. Titova and M. G. Bel'skaya	1278	1235
A Polarographic Study of 2-Phenylindanedione-1,3 – Ya. P. Stradyn', I. K. Tutane, and G. Ya. Vanag	1281	1239
BRIEF COMMUNICATIONS		
Flame Photometric Determination of the Alkali Metals – E. D. Prudnikov	1288	1248
A Gravimetric Method for Determining Large Amounts of Niobium and Tungsten in Each Other's Presence – A. Ya. Sheskol'skaya	1291	1250
The Use of Divalent Chromium for Determining Microamounts of Antimony in Solders – L. R. Narushkyavichyus and R. M. Kazlauskas	1293	1252
A Rapid Method for Determining Free Amorphous Silica in Clay – A. P. Kreshkov, A. N. Chivikova, and A. A. Zagorovskaya	1295	1253
Determination of Diphenic and Phthalic Acids in Mixtures Obtained During Phenanthrene Oxidation – V. K. Kondratov, N. D. Rus'yanova, V. G. Koksharov, and G. F. Belyaeva	1297	1255
Determination of Chloroprene in Air – M. D. Babina	1300	1257
CRITICISM AND BIBLIOGRAPHY		
N. A. Filipova. Phase Analysis of Nonferrous Metal Ores and Their Processed Products – A. I. Busev	1303	1260
H. A. Liebhafsky, G. G. Pfeiffer, E. G. Winslow, and P. D. Zemani. Use of X-ray Absorption and Emission – É. É. Vainshtein	1305	1261
Atomic Absorption Analysis (Review). Analytical Methods for Chemical Reagents and Preparations, No. 10 – N. I. Tarasevich	1306	1262
New Books	1307	1263
Dmitrii Ivanovich Ryabchikov (Obituary)	1308	1264
CHRONICLES		
The Ninth Mendeleev Congress on General and Applied Chemistry – B. I. Nabivanets	1310	1266
The First International Symposium on Oscillometry – V. A. Zarinskii	1312	1268

ZHURNAL ANALITICHESKOI KHIMII
EDITORIAL BOARD

I. P. Alimarin
(Editor-in-Chief)
A. K. Babko
A. I. Busev
(Secretary)
P. N. Palei
Z. F. Shakhova
I. V. Tananaev
A. P. Terent'ev
A. P. Vinogradov
Yu. A. Zolotov

JOURNAL OF
ANALYTICAL CHEMISTRY
OF THE USSR

A translation of **ZHURNAL ANALITICHESKOI KHIMII,**
a publication of the Academy of Sciences of the USSR

© 1966 CONSULTANTS BUREAU, A DIVISION OF PLENUM PUBLISHING CORPORATION, 227 West 17th Street, New York, N. Y. 10011

Volume 20, Number 12 December, 1965

CONTENTS

	PAGE	RUSS. PAGE
Rational Compilation of Analytical Procedures. Design of Procedures for Photometric Determinations—L. P. Adamovich	1317	1273
Coefficients for Amalgam Polarography with Accumulation under Standard Conditions—M. S. Zakharov and A. G. Stromberg	1323	1279
Spectrochemical Determination of Gold in Silicate Rocks and Minerals—N. T. Voskresenskaya, N. F. Zvereva, and L. L. Rivkina	1331	1288
A Spectrophotometric Study of Lumogallion and its Complex with Gallium—V. D. Salikhov and M. Z. Yampolskii	1340	1299
Concentration of Materials in Polarographic Analysis. Communication 6. Thallium Determination—Kh. Z. Brainina and N. K. Kiva	1346	1306
A Spectrophotometric Study of some Bisazo Derivatives of Chromotropic Acid and their Reactions with Scandium Subgroup Metal Ions—A. I. Cherkesov and N. M. Alykov	1351	1312
A Chronopotentiometric Method for Determining Microconcentrations of Univalent Thallium after Electrolytic Accumulation on a Rotating Disc Platinum Electrode—A. N. Doronin and O. L. Kabanova	1358	1321
Quantitative Determination of Titanium in Organic Titanium and Organic Titanium Silicon Compounds—A. P. Kreshov, L. V. Myshlyaev, E. A. Kuchkarev, and T. G. Shatunova	1362	1325
An Express Luminescent Method for Determining Lead—E. A. Bozhevlo'nov and E. A. Solov'ev	1366	1330
Photometric Determination of Neptunium by means of Xylenol Orange—N. P. Ermolaev, G. S. Kovalenko, N. N. Krot, and V. I. Blokhin	1371	1336
The Solubility of Cobalt Diantipyrylmethane Thiocyanate and Conditions for Obtaining Analytical Concentrates of Cobalt—A. K. Babko and V. N. Danilova	1375	1341
The Interaction between Cobalt Ions and β-Mercaptohydrocinnamic Acid—A. I. Busev and D. Kh. Vin'	1380	1347
Determination of Nitrogen and Oxygen in UF_6—Z. M. Turovtseva, V. I. Malyshev, and A. S. Noskov	1385	1353

Annual Subscription: $135 **Single Issue: $30** **Single Article: $15**

All rights reserved. No article contained herein may be reproduced for any purpose whatsoever without permission of the publisher. Permission may be obtained from Consultants Bureau, A Division of Plenum Publishing Corporation, 227 West 17th Street, New York, N. Y. 10011, U.S.A.

CONTENTS (continued)

	PAGE	RUSS. PAGE
An Impulse Heating Method for the Rapid Determination of Oxygen in Refractory Materials and Metals. Communication 1. Description of the Method. Some Examples of its Use —A. M. Vasserman and Z. M. Turovtseva	1390	1359
Determination of the Form in which Tellurium is Present in Copper Electrolytic Sludge —Z. I. Gromakova, E. A. Buketova, M. Zh. Makhmetov, and A. M. Dymov	1395	1364
BRIEF COMMUNICATIONS		
Separation and Determination of Gallium, Indium, Cadmium, and Zinc by Paper Partition Chromatography—N. L. Olenovich, S. N. Ufimtseva, and M. M. Rogachko	1399	1368
Atomic Absorption Determination of Lead in Biological Fluids—V. A. Razumov, T. P. Utkina, and T. K. Aidarov	1402	1371
Determination of Terpin Hydrate by Oxidation—V. G. Gurevich and A. D. Gol'tman	1405	1373
The Use of Thin Layer Chromatography for Analyzing Mixtures of High-Boiling Alcohols Formed during Isoprene Synthesis—E. O. Turgel' and E. V. Kuznetsova	1407	1374
CRITICISM AND BIBLIOGRAPHY		
S. I. Ginzburg, K. A. Gladyshevskaya, N. A. Ezerskaya, O. M. Ivonina, I. V. Prokof'eva, N. V. Fedorchenko, and A. M. Fedorova. The Chemical Analysis of the Platinum Metals and Gold—Reviewed by V. I. Shlenskaya	1411	1379
New Books	1413	1380
Yulii Abelevich Chernikhov	1414	1381
INDEX		
Author Index, Volume 20, 1965	1417	
Tables of Contents, Volume 20, 1965	1421	